



Part 192 - Subpart P
Gas Distribution
Pipeline Integrity Management
(IM)

Rule Websites

www.regulations.gov

Docket No. PHMSA–RSPA–2004–19854

PHMSA Rulemaking

<http://www.phmsa.dot.gov/pipeline/regs/rulemaking>

**§192.383 Excess Flow Valves
Customer Notification**

REMOVED

§192.1001 What do the regulations in this subpart cover?

- *General.* This subpart prescribes minimum requirements for an IM program for any gas distribution pipeline covered under this part.
- A master meter operator or LPG operator of a gas distribution pipeline must follow the requirements in §192.1019 of this subpart.

§192.1003 What definitions apply to this subpart?

- The following definitions apply to this subpart:
- *Damage* means any impact or exposure resulting in the repair or replacement of an underground facility, related appurtenance, or materials supporting the pipeline.

§192.1005 What must a gas distribution operator (other than a master meter or LPG operator) do to implement this subpart?

- (a) *Dates.* 18 months from FR to develop and implement the IM program must contain the elements described in §192.1007.

§192.1005 What must a gas distribution operator (other than a master meter or LPG operator) do to implement this subpart?

- (b) *Procedures*. An operator's program must have written procedures describing the processes for developing, implementing and periodically improving each of the required elements.

(Identify Threats, Risk Analysis, Planned Actions)



§192.1007 What are the required integrity management (IM) program elements?

- (a) *Knowledge*. An operator must demonstrate an understanding of the gas distribution system.
- (1) Identify the characteristics of the system and the environmental factors that are necessary to assess the applicable threats and risks to the gas distribution system.

§192.1007

- (a) *Knowledge*.....
- (2) Understand the information gained from past design and operations.



§192.1007

- (a) *Knowledge.....*

(3) Identify additional information needed and provide a plan for gaining that information over time through normal activities.

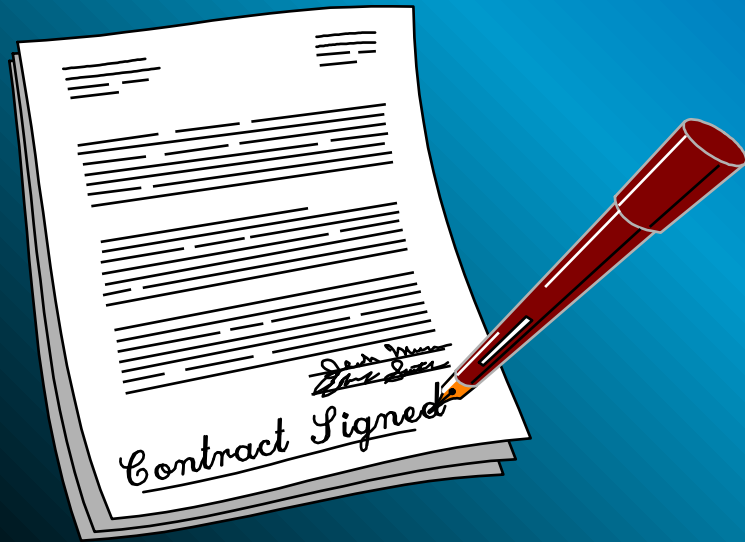
§192.1007

- (a) *Knowledge*.....
- (4) Develop a process by which the program will be continually refined and improved.



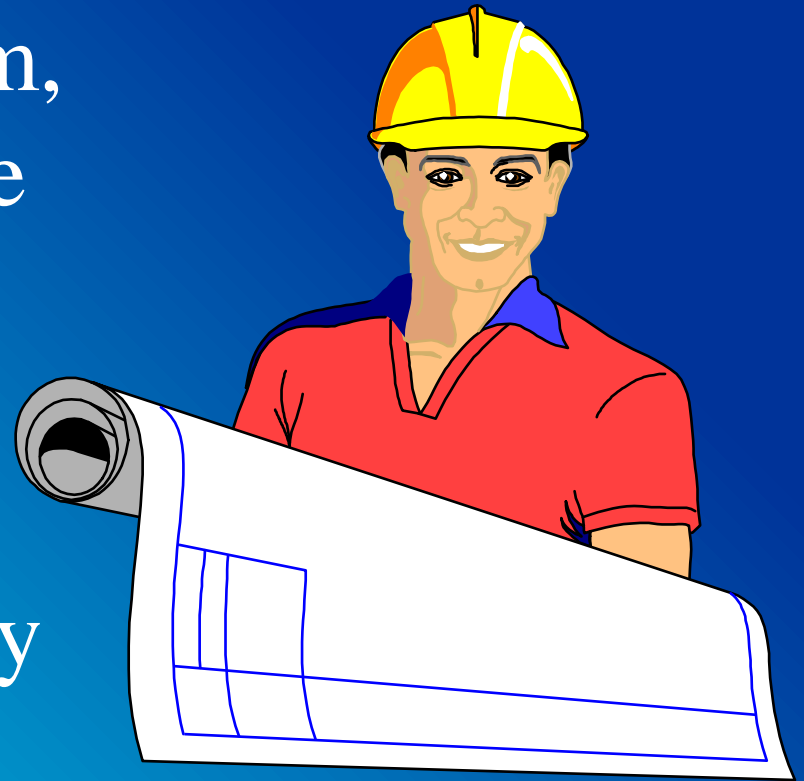
§192.1007

- (a) *Knowledge...*
- (5) Provide for the capture and retention of data on any piping system installed after the operator's IM program becomes effective.



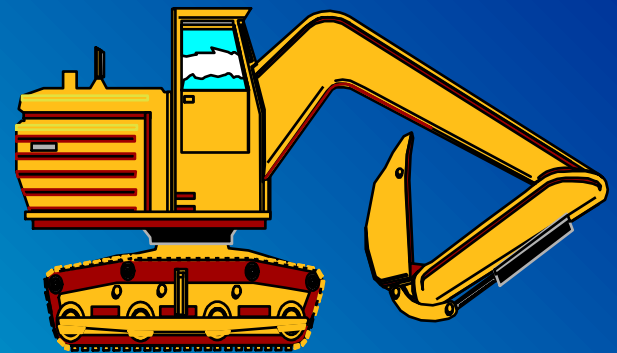
§192.1007

- (a) *Knowledge*.....
- (5)The data must include, at a minimum, the location where the new piping and appurtenances are installed and the material of which they are constructed.



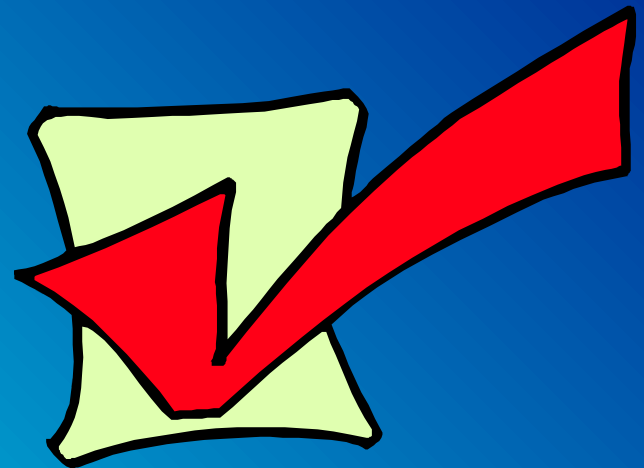
§192.1007

- (b) *Identify threats.* The operator must consider the following categories of threats to each gas distribution pipeline
 - corrosion
 - natural forces
 - excavation damage
 - other outside force damage



§192.1007

- (b) *Identify threats.*
 - material or weld failure
 - equipment malfunction
 - inappropriate operation,
 - other concerns that could threaten the integrity of the pipeline.



§192.1007

- (b) An operator must gather data from the following sources to identify existing and potential threats:
 - incident and leak history
 - corrosion control records
 - continuing surveillance records
 - patrolling records



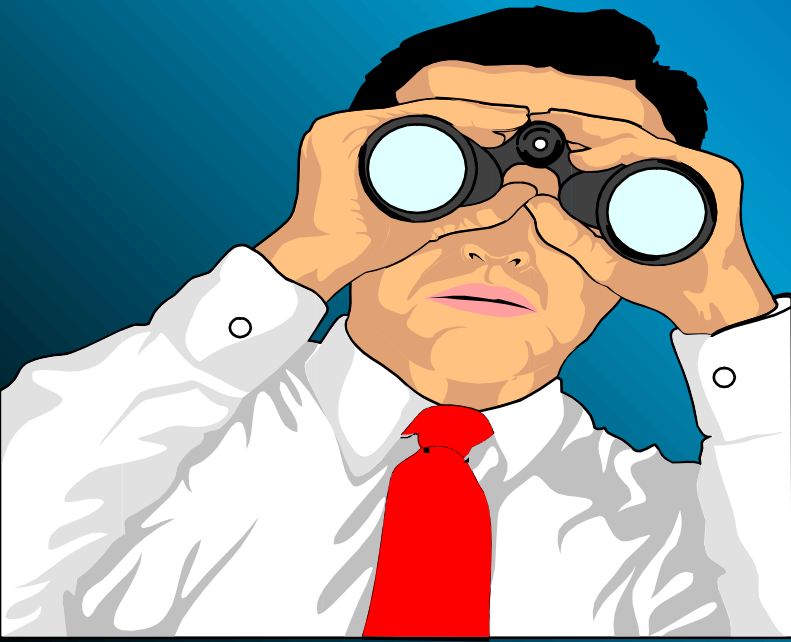
§192.1007

- (b) An operator must gather data
 - maintenance history
 - “one call” and excavation damage experience



§192.1007

- (b) In considering the threat of inappropriate operation, the operator must evaluate the contribution of human error to risk and the potential role of people in preventing and mitigating the impact of events contributing to risk.



§192.1007

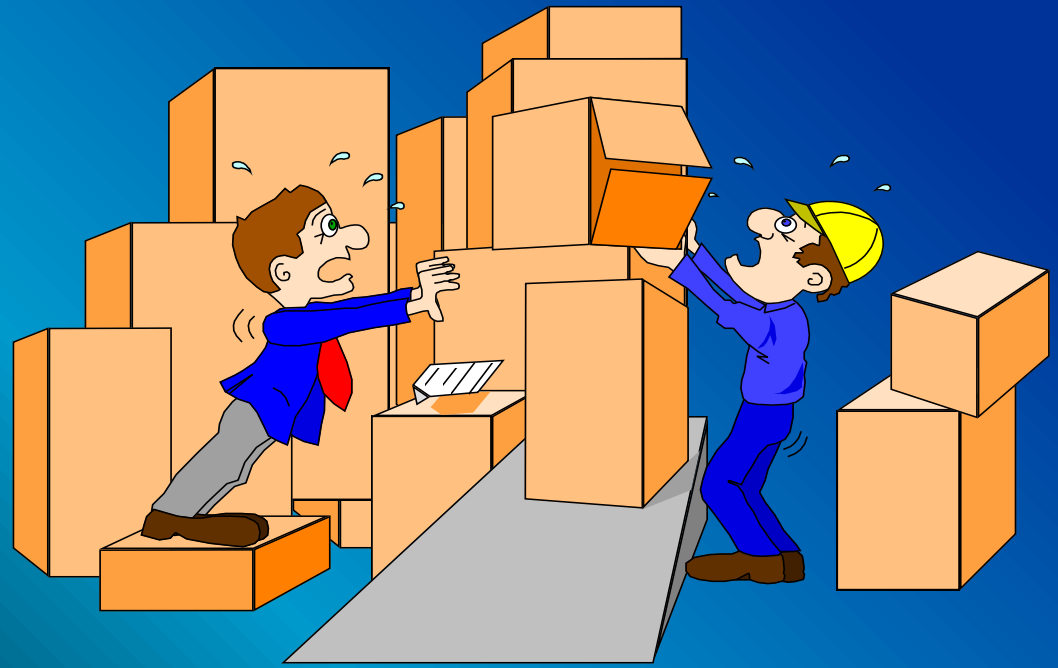
- (b) In considering the threat of inappropriate operation.....
- This evaluation must also consider the contribution of existing DOT requirements applicable to the operator's system (e.g., Operator Qualification, Drug and Alcohol Testing) in mitigating risk.

§192.1007

- (c) *Evaluate and prioritize risk.* An operator must evaluate the risks associated with its distribution pipeline system.
- In this evaluation, the operator must determine the relative probability of each threat and estimate and prioritize the risks posed to the pipeline system.

§192.1007

- (c) *Evaluate and prioritize risk.*
- This evaluation must consider each applicable current and potential threat, the likelihood of failure associated with each threat, and the potential consequences of such a failure.



§192.1007

- (c) *Evaluate and prioritize risk*.....
- An operator may subdivide the system into regions (areas within a distribution system consisting of mains, services and other appurtenances) with similar characteristics and reasonably consistent risk, and for which similar actions would be effective in reducing risk.



Cast
Iron



Bare Steel
(without CP)



Bare Steel
(with CP)



Coated
Steel
(with CP)



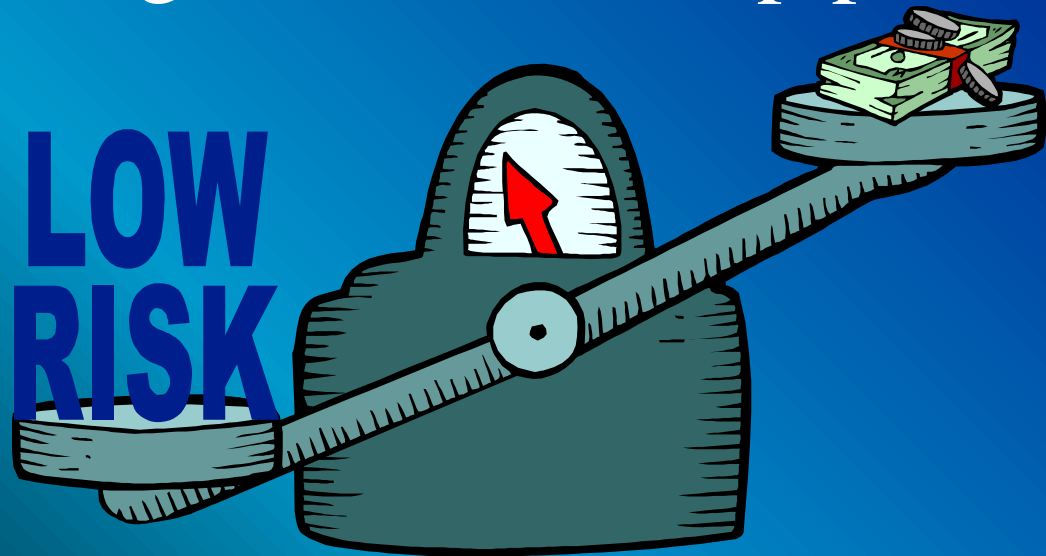
Good
PE



Problem
Plastic

§192.1007

- (d) *Identify and implement measures to address risks.*
 - Determine and implement measures designed to reduce the risks from failure of its gas distribution pipeline system.



§192.1007

- (d) *Identify and implement measures to address risks.*
 - These measures must include implementing an effective leak management program *and*



§192.1007



- (d) *Identify and implement measures to address risks.*
 - Enhancing the operator's damage prevention program required under §192.614 of this part.

§192.1007

- (d) *Identify and implement measures to address risks.....*
- To address risks posed by inappropriate operation, an operator's written IM program must contain a separate section with a heading

“Assuring Individual Performance”.

§192.1007

- (d) *Identify and implement measures to address risks.....*
- In that section, an operator must list risk management measures to evaluate and manage the contribution of human error and intervention to risk (e.g., changes to the role or expertise of people), and implement measures appropriate to address the risk.

§192.1007

- (d) *Identify and implement measures to address risks.....*
 - In addition, this section of the written IM program must consider existing programs the operator has implemented to comply with
 - §192.614 Damage Prevention
 - §192.616 Public Awareness
 - Subpart N Operator Qualification
 - Part 199 Drug and Alcohol Program

§192.1007

- (e) *Measure performance, monitor results, and evaluate effectiveness.*

(1) Develop and monitor performance measures from an established baseline to evaluate the effectiveness of its IM program.



§192.1007

- (e) *Measure performance, monitor results, and evaluate effectiveness.*
- (1) Develop and monitor performance measures
 - An operator must consider the results of its performance monitoring in periodically re-evaluating the threats and risks. These performance measures must include the following:

§192.1007

- (i) Number of hazardous leaks either eliminated or repaired, per §192.703(c), categorized by cause;
- (ii) Number of excavation damages;
- (iii) Number of excavation tickets (receipt of information by the underground facility operator from the notification center);
- (iv) Number of EFVs installed;

§192.1007 What are the required integrity management (IM) program elements?

- (v) Total number of leaks either eliminated or repaired, categorized by cause;
- (vi) Number of hazardous leaks either eliminated or repaired per §192.703(c), categorized by material; and
- (vii) Any additional measures to evaluate the effectiveness of the operator's program in controlling each identified threat.

§192.1007

(f) *Periodic Evaluation and Improvement.* An operator must continually re-evaluate threats and risks on its entire system and consider the relevance of threats in one location to other areas.



§192.1007

(f) *Periodic Evaluation and Improvement*.....

In addition, each operator must periodically evaluate the effectiveness of its program for assuring individual performance to reassess the contribution of human error to risk and to identify opportunities to intervene to reduce further the human contribution to risk (e.g., improve targeting of damage prevention efforts).

§192.1007

(f) *Periodic Evaluation and Improvement.*

.....

- An operator must conduct a complete program re-evaluation at least every five years. The operator must consider the results of the performance monitoring in these evaluations.



§192.1007

- (g) *Report results.* Report the four measures listed in paragraphs (e)(1)(i) through (e)(1)(iv) of this section, annually by March 15, to PHMSA as part of the annual report required by §191.11 of this chapter. An operator also must report these four measures to the State pipeline safety authority in the State where the gas distribution pipeline is located

§192.1009 What must an operator report when plastic pipe fails?

- Each operator must report information relating to each material failure of plastic pipe (including fittings, couplings, valves and joints) no later than 90 days after failure.



§192.1009 What must an operator report when plastic pipe fails?

- This information must include:
 - location of the failure in the system
 - nominal pipe size
 - material type
 - nature of failure
 - pipeline environment

§192.1009 What must an operator report when plastic pipe fails?

- This information must include:
 - pipe manufacturer
 - lot number
 - date of manufacture
 - other information that can be found in markings on the failed pipe.

§192.1009 What must an operator report when plastic pipe fails?

- An operator must send the information report as indicated in §192.1013. An operator must also report this information to the State pipeline safety authority in the State where the gas distribution pipeline is located.

§192.1011 When must an Excess Flow Valve (EFV) be installed?

- (a) *General requirements.* This section only applies to new or replaced service lines serving single-family residences. An EFV installation must comply with the requirements in §192.381.

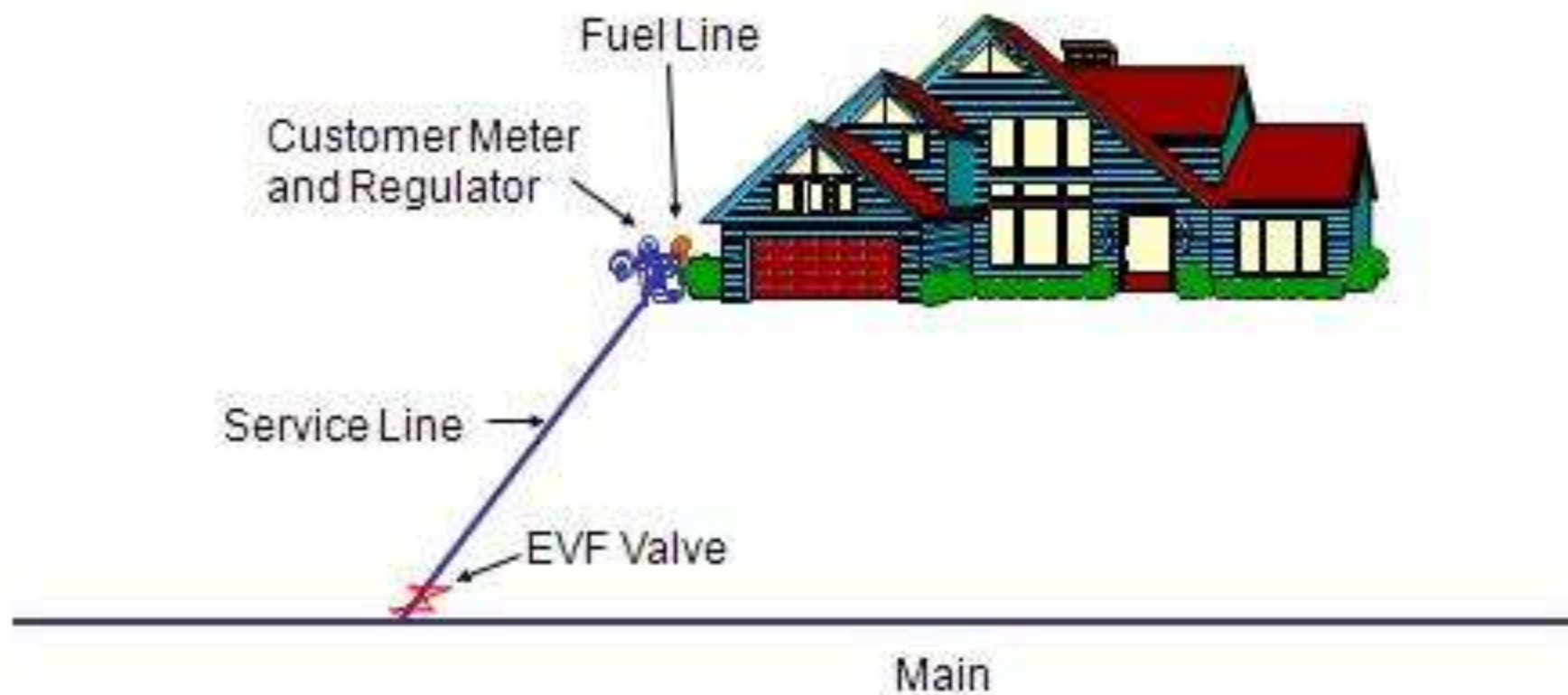
§192.1011 When must an Excess Flow Valve (EFV) be installed?



- (b) *Installation required.* The operator must install an EFV on the service line installed or entirely replaced after (90 days after FR), unless one or more of the following conditions is present:

§192.1011 When must an Excess Flow Valve (EFV) be installed?

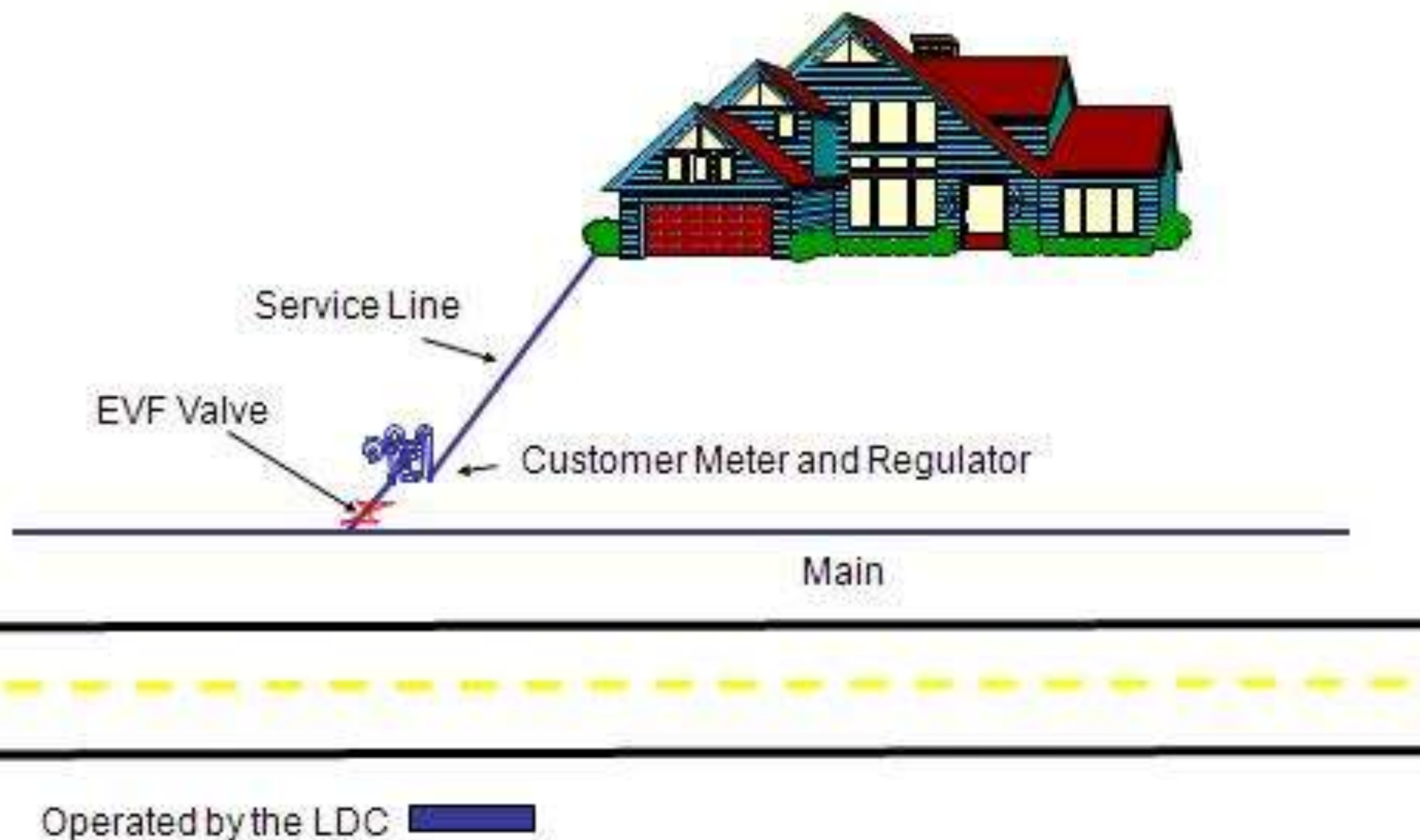
- (1) Operating at 10 psig or less
- (2) Contaminants in the gas stream
- (3) EFV could interfere with necessary operation or maintenance activities
- (4) An EFV is not commercially available

EFV Installations

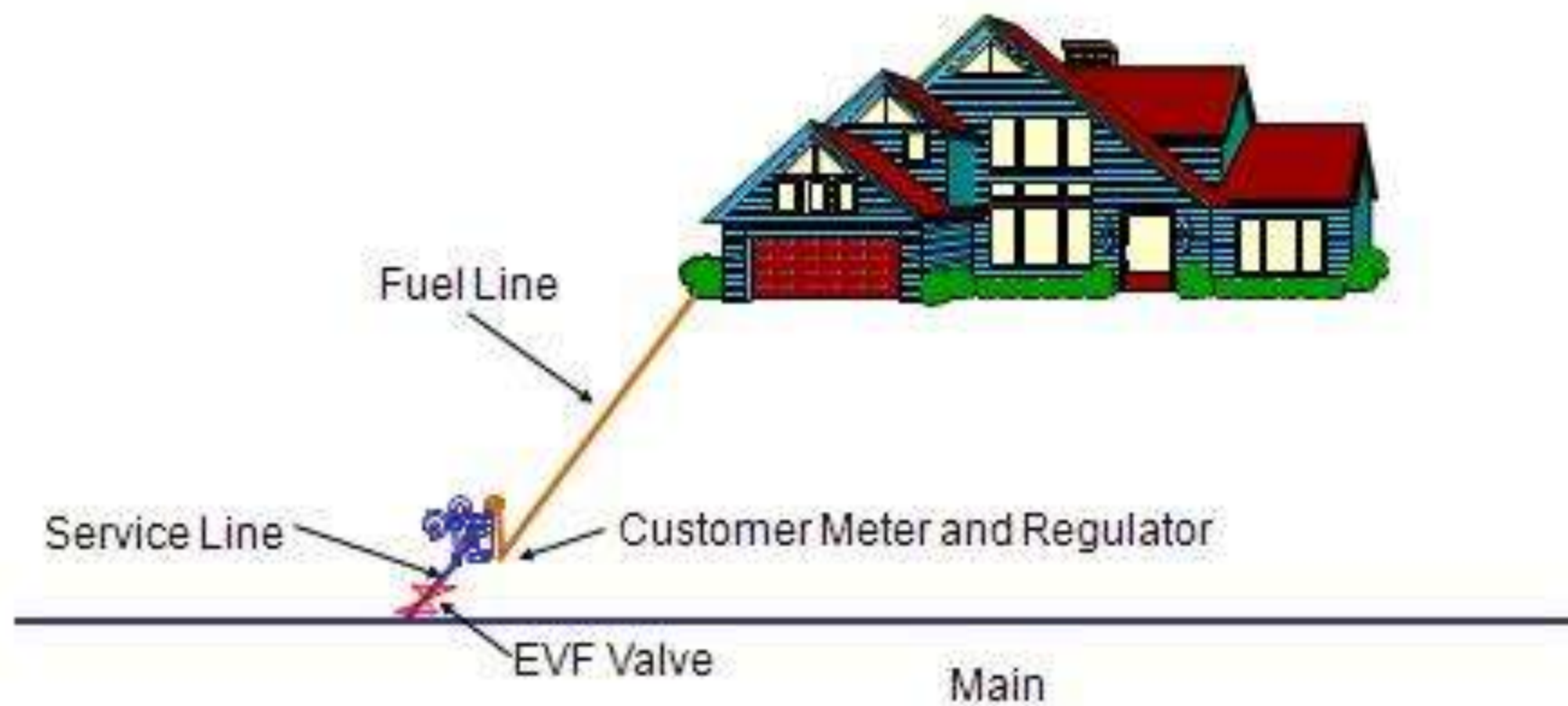




Operated by the LDC 
Owned by Customer 

EFV Installations

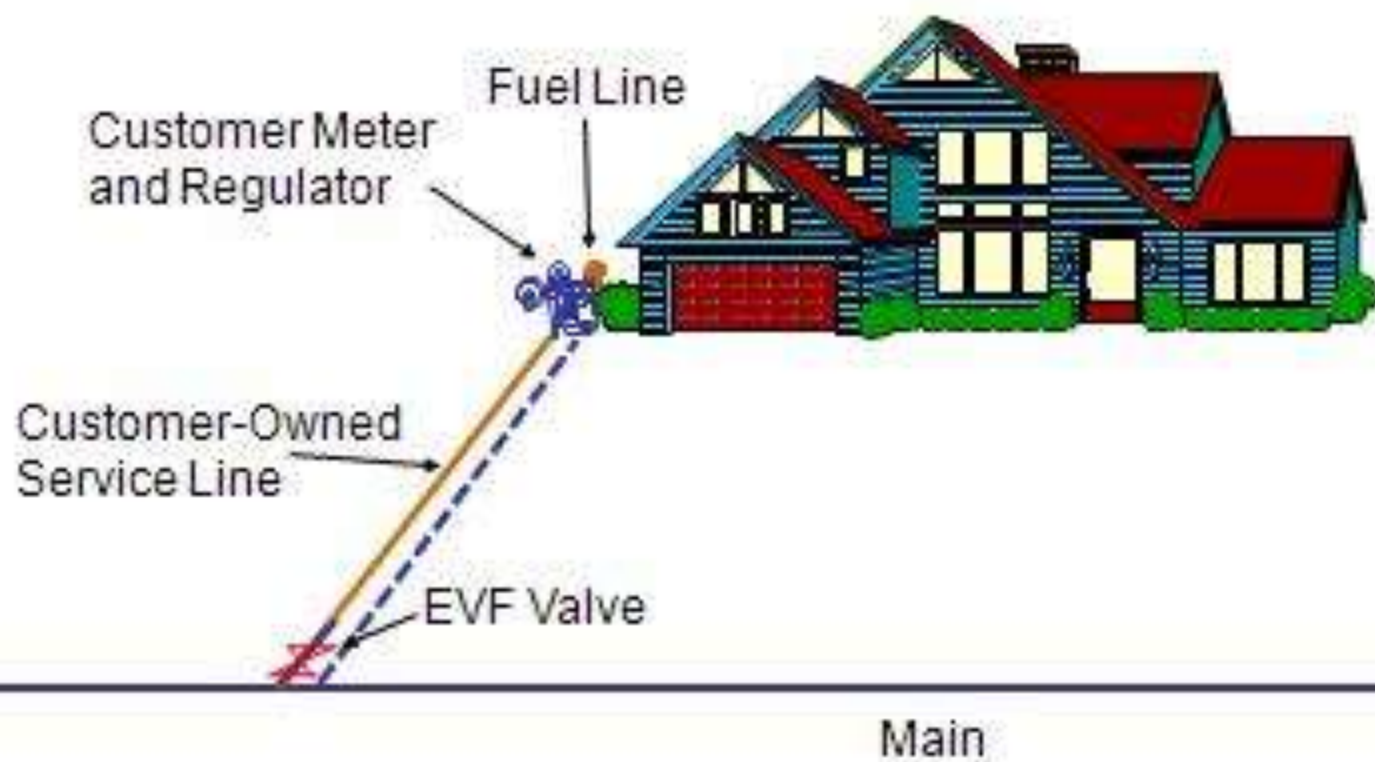


EFV Installations



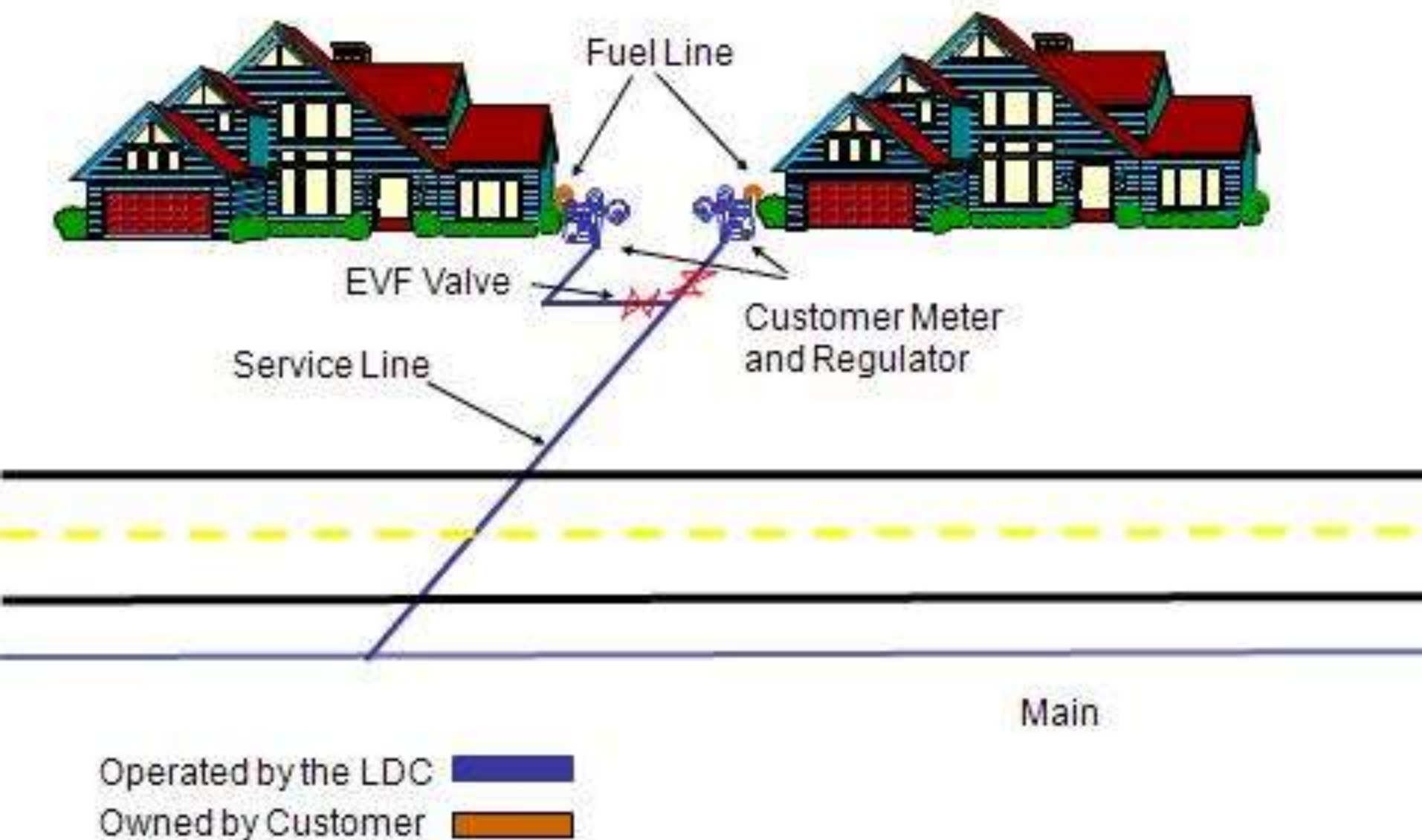
Operated by the LDC 
Owned by Customer 

EFV Installations



Operated by the LDC  
Owned by Customer 

EFV Installation Options

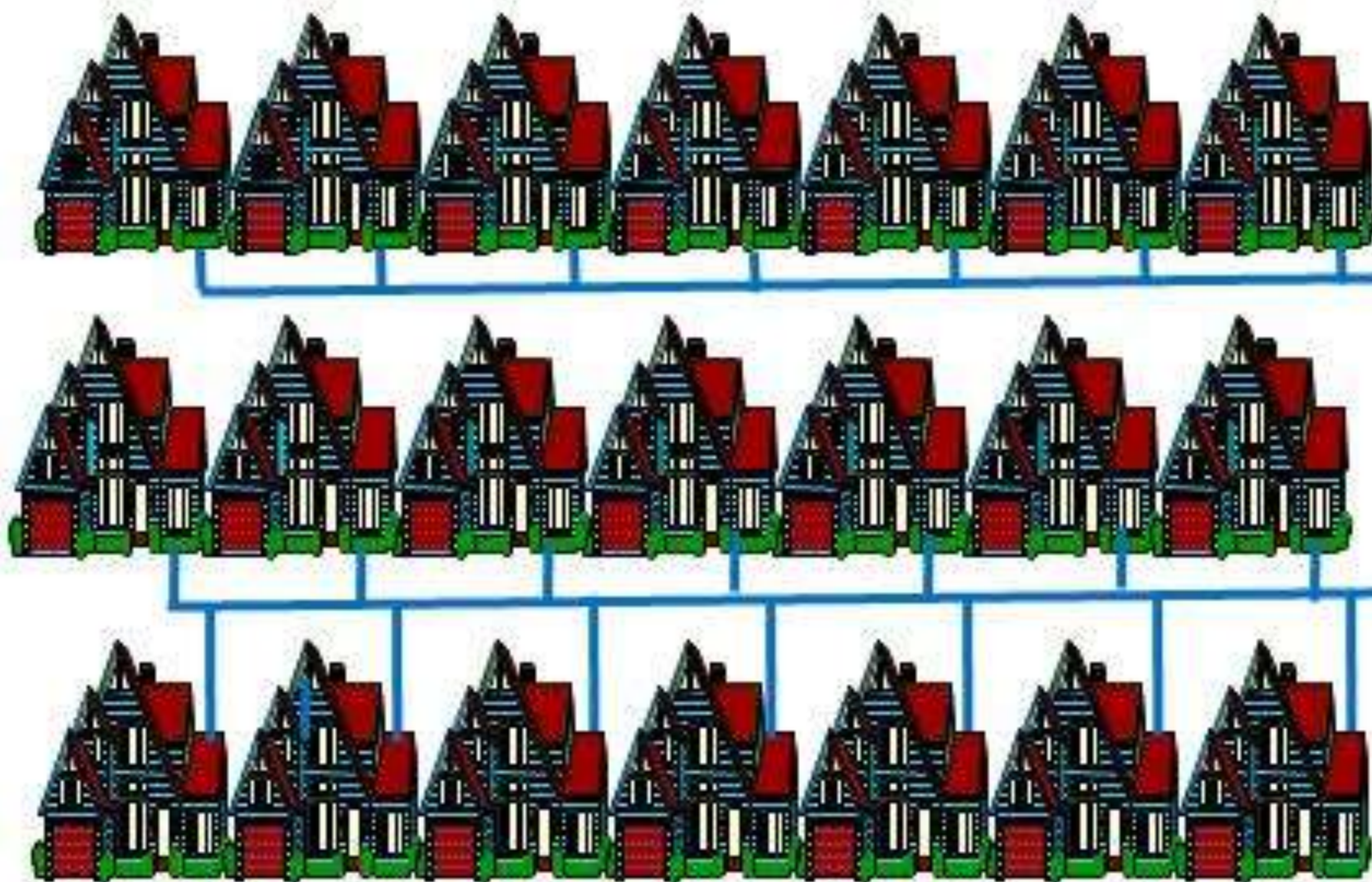


§192.381 Service Lines: Excess flow valve performance standards

- (a) Excess flow valves to be used on single residence service lines that operate continuously throughout the year at a pressure not less than 10 p.s.i. (69 kPa) gage must be manufactured.....

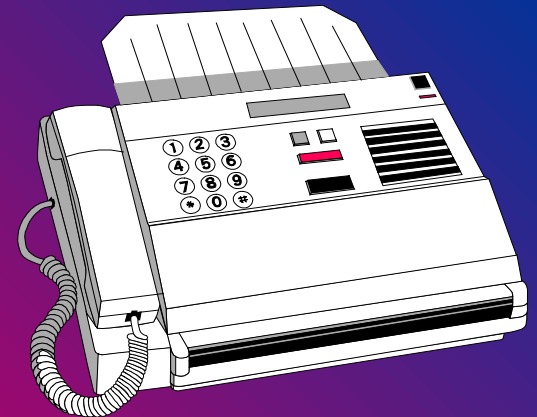
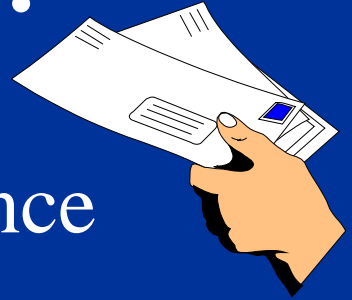


15# System



§192.1013 How does an operator file a report with PHMSA?

- An operator must send any performance report required by this subpart to the Information Resource Manager as follows:
 - (a) *<http://PHMSA.dot.gov>*;
 - (b) Via facsimile to (202) 493-2311; or
 - (c) Mail: PHMSA



§192.1015 What records must an operator keep?

- Except for the performance measures records required in §192.1007, an operator must maintain, for the useful life of the pipeline, records demonstrating compliance with the requirements of this subpart. At a minimum, an operator must maintain the following records for review during an inspection:

§192.1015 What records must an operator keep?

- (a) A written IM program in accordance with §192.1005;
- (b) Documents supporting threat identification;
- (c) A written procedure for ranking the threats;

§192.1015 What records must an operator keep?

- (d) Documents to support any decision, analysis, or process developed and used to implement and evaluate each element of the IM program;
- (e) Records identifying changes made to the IM program, or its elements, including a description of the change and the reason it was made; and

§192.1015 What records must an operator keep?

- (f) Records on performance measures. However, an operator must only retain records of performance measures for ten years.



§192.1017 When may an operator deviate from required periodic inspections under this part?

- (a) An operator may propose to reduce the frequency of periodic inspections and tests required in this part on the basis of the engineering analysis and risk assessment required by this subpart.



§192.1017 When may an operator deviate from required periodic inspections under this part?

- (a) Operators may propose reductions only where they can demonstrate that the reduced frequency will not significantly increase risk.

§192.1017 When may an operator deviate from required periodic inspections under this part?

- (b) Submit proposal to agency responsible for oversight of the operator's system. (State or PHMSA)

They may accept the proposal, with or without conditions and limitations, provided that the adjusted interval provides a satisfactory level of pipeline safety.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

- (a) General.** No later than 18 months after the FR the operator of a master meter or a liquefied petroleum gas (LPG) gas distribution pipeline must develop and fully implement a written IM program.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

- (a) General.....The IM program must contain, at a minimum, elements in paragraphs (a)(1) through (a)(5) of this section. The IM program for these pipelines should reflect the relative simplicity of these types of systems.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

- (1) *Infrastructure knowledge.* The operator must demonstrate knowledge of the system's infrastructure, which, to the extent known, should include the approximate location and material of its distribution system. The operator must identify additional information needed and provide a plan for gaining knowledge over time through normal activities.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(2) *Identify threats.* The operator must consider (existing and potential)

- corrosion
- natural forces
- excavation damage

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(2) *Identify threats.* The operator must consider (existing and potential)

- other outside force damage
- material or weld failure
- equipment malfunction
- inappropriate operation

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(3) Identify and implement measures to mitigate risks.

Determine and implement measures designed to reduce the risks from failure of its pipeline system.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(4) Measure performance, monitor results, and evaluate effectiveness.

Develop and monitor performance measures on the number of leaks eliminated or repaired on its pipeline system and their causes.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(5) Periodic evaluation and improvement.

Determine the appropriate period for conducting IM program evaluations based on the complexity of its system and changes in factors affecting the risk of failure.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(5) Periodic evaluation and improvement.

..... An operator must re-evaluate its entire program at least every five years. The operator must consider the results of the performance monitoring in these evaluations.

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(b) *Records.* The operator must maintain, for the useful life of the pipeline, the following records:

(1) A written IM program in accordance with this section;

(2) Documents supporting threat identification; and

§192.1019 What must a master meter or liquefied petroleum gas (LPG) operator do to implement this subpart?

(b) *Records.*

(3) Documents showing the location and material of all piping and appurtenances that are installed after the effective date of the operator's IM program and, to the extent known, the location and material of all pipe and appurtenances that were existing on the effective date of the operator's program.

Information Websites

PHMSA Training and Qualification

<http://www.phmsa.dot.gov/pipeline/TQ>

PHMSA Pipeline Safety Regulations

<http://www.phmsa.dot.gov/pipeline/TQ/Regulations>

PHMSA Rulemaking

<http://www.phmsa.dot.gov/pipeline/regs/rulemaking>